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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,344	02/11/2002	Norbert Nicolai	37998-177952	9936

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EXAMINER

WARREN, DAVID S

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/049,344

Applicant(s)

NICOLAI ET AL.

Examiner

David S. Warren

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 3 – 6 and 8 – 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Fuchs et al. (5,700,527). Regarding claim 1, Fuchs shows a micro-perforated sheet absorber having a proportion of hole area of 1.03%, a perforation hole diameter of 0.1 – 2.0 mm, and inter-hole distances of 2 – 20 mm. All of these values lie within the ranges claimed by the applicant. Fuchs also discloses a “non-woven absorber” (col. 4, lines 38 – 40; i.e., where the reinforcements that prevent the sound from exciting the panels into vibration, are considered to “absorb” sound). Regarding claim 3, Fuchs shows a 1.03% hole area proportion. Regarding claim 4, the Fuchs range (0.1 to 2.0 mm) includes both of applicant’s claimed ranges. Regarding claim 5, Fuchs discloses the possibility of using plural perforated sheets (col. 4, lines 34-35). (The applicant’s use of the word “especially” in claim 5, does not further limit the claim.) Fuchs also discloses using different hole parameters (e.g., diameters, distances therebetween, etc.) to adjust to a desired sound frequency to be attenuated. This implies the use of multiple panels with different parameters for multiple frequency attenuation. Regarding claim 6, Fuchs discloses the 1.03% hole proportion with a hole diameter of 0.16 mm and inter-perforation distance of 1.4 mm apart. By increasing the

hole diameter by a factor of 1.414 (i.e., the square root of two) to 0.22 mm (which is within the range disclosed by Fuchs) the hole proportion will double to 2.06% which meets the applicant's limitation of claim 6. Regarding claim 8, the applicant appears to be claiming all possibilities of hole distribution – "homogeneous" or "concentrated in areas" – the examiner is interpreting this to mean "either homogeneous or non-homogeneous." While the Fuchs reference is silent as to hole distribution, it *must* have either a homogeneous or non-homogeneous hole distribution (since no other possibilities exist), therefore the Fuchs reference meets this limitation. Regarding claim 9, Fuchs discloses a perforated sheet thickness of 0.2 to 30 mm. Regarding claim 10, Fuchs discloses the use of perforated sheets made of either glass or plexiglass (i.e., plastic). Regarding claim 11, Fuchs discloses the use of "glued on strips" which are interpreted to be "multiple layers," also Fuchs teaches the use of using multiple sheets. Regarding claims 12 and 13, Fuchs shows the use of using "several" (i.e., 3 or more) and the use of using multiple spacing configurations (e.g., planar – where the mutual distance is constant) and (e.g., slanted – where the mutual distance is different). Fuchs also discloses that the distance of the perforated sheet from the surface should be chosen in accordance with the frequencies that need to be attenuated.

2. Claims 1-3, 7, 14, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Stricker et al. (5,670,235). Regarding claims 1 and 3, Stricker shows the use of a perforated sheet used to attenuate sound having hole parameters that lie within the ranges as claimed by the applicant (col. 3, lines 51 – 60) i.e., a hole diameter range of 1 to 3 mm, hole spacing range of 5 – 30 mm, and proportion of holes ranging from

0.3 – 8%. Regarding claims 2 and 15, Stricker teaches the use of using the sound absorber as an internal frame lining for motor vehicles (col. 1, line 11). Regarding claim 7, the largest diameter for a perforation in the Stricker disclosure is 3 mm, which is equivalent to an area of  $7.07 \text{ mm}^2$  (within the range claimed by applicant). Regarding claim 14, Stricker discloses that the perforations are "zoned" (col. 3, line 33) this is equivalent to varying inter-hole distances. Stricker also shows that the perforations may have "random" shapes (col. 3, line 55), this is considered to have "varying diameters." Stricker also discloses that the sound-absorbing sheet may have added layers where "sound absorption is important" (col. 3, lines 65-67), thus, Stricker teaches a varying thickness "over the element."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Warren whose telephone number is 703-308-5234. The examiner can normally be reached on M-F, 9 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 703-308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

dsw

December 27, 2002

  
ROBERT E. NAPPI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800